REMARKS

Below, the applicant's comments are preceded by related remarks of the examiner set forth in small bold type.

2. Claims 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Hongoh, US Patent 6,343,565 B1.

Hongoh teaches a plasma processing apparatus that includes: a chamber S; a support 24 for supporting a wafer (plate) W; a high frequency source 76; a first gas supply 54 connected to a first inlet 38 via a first flow controller 46; and a second gas supply 56 connected to a second inlet 40 via a second flow controller 48. (Figure 5)

3. Claims 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Hanawa et al, US Patent 6,634,313 B2.

Hanawa et al teaches a plasma etching apparatus that includes: a chamber 12; a support 74 for supporting a substrate (plate) 32; a high frequency source 124; a first gas supply 92 connected to a first inlet 71 via a first flow controller 42; and a second gas supply 94 connected to a second inlet 70 via a second flow controller 42. (Figure 1)

4. Claims 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Collins, US Patent 6,736,931 B2.

Collins et al teaches a plasma etching apparatus that includes: a chamber 40; a support 54 for supporting a wafer (plate) 56; a high frequency source 68; a first gas supply connected to a first inlet 64a via a first flow controller; and a second gas supply connected to a second inlet 64b-64d via a second flow controller.

5. The Examiner notes:

a. It has been held that: claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPQ 1959); "Apparatus claims cover what a device is, not what a device does" (Emphasis in original) *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990); and a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). Also see MPEP 2114.

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c. "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969).

Furthermore, "Inclusion of material or article worked upon by a structure being claimed does not impact patentability to the claims." *In re Young*, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

The applicant respectfully disagrees. As the applicant's representative explained in a telephone interview on September 1, 2004, neither Hongoh, Hanawa, nor Collins discloses or suggests an apparatus that includes "a quartz plate supported within the chamber," as recited in claim 24. Hongoh discloses a plasma processing apparatus that etches a wafer (col. 4, lines 42-50). Hanawa discloses a substrate processing system that processes wafers (col. 4, lines 15-20), and uses quartz as an interior liner of a plasma source chamber (col. 11, lines 48-54). Collins discloses a plasma reactor that processes, e.g., a semiconductor wafer (col. 9, lines 43-44), the plasma reactor having a plasma chamber enclosure structure that is formed of, e.g., quartz (col. 5, lines 47-49).

Hongoh, Hanawa, and Collins, independently or in combination, would not have made obvious "a quartz plate supported within the chamber ... the first and second plasma gases being used to etch the quartz plate." None of the cited references mention a quartz plate, nor etching a quartz plate. While Hanawa and Collins mention quartz, Hanawa uses quartz as a liner of a plasma source chamber, and Collins uses quartz as the material for a plasma chamber enclosure structure.

There is no suggestion or motivation to use plasma to etch "a substrate comprising a quartz plate," which, for example, can be used to generate a quartz lithography mask that can be illuminated to generate a lithographic interference pattern. As described in page 9, line 26 to page 10, line 11 of the applicant's specification, "An advantage [of the invention] is that uniform etch depths across a wafer substrate can be obtained, even without the use of a stop layer ... The process can also be used to etch other substrates. An example is a quartz lithography mask, ... carries pits which are of uniform depth to maintain the accuracy of the out-of-phase interference relationship between light waves passing through the etched portions and light waves passing through the un-etched portions. Since the quartz substrate itself is being etched, a stop layer is not used inside the quartz substrate to prevent non-uniform etch depth."

Claim 24 is distinguished from the cited references in terms of structure (e.g., a quartz plate), and not in terms of function. The limitation "a substrate comprising a quartz plate" recites structure, and is not an "expression relating the apparatus to contents thereof."

In determining patentability of claim 24, the examiner appears to have excluded the "quartz plate" limitation from claim 24. The examiner cites In re Young for support of his position. However, the examiner quoted In re Young out of context. In In re Young, the court stated that "We do not understand the tribunals of the Patent Office to hold that the references cited of themselves constitute an anticipation of appellant's device, but rather it is held that, in view of them no invention is involved. ... claim 6 ... does include as an element the material being worked upon ... We do not deem it necessary to determine whether, were the claim otherwise patentable, the inclusion of this limitation should of itself prevent its allowance, but we do hold that its inclusion may not lend patentability since the claim is not otherwise allowable."

The court did not held that, when determining whether a claim that includes as an element the material being worked upon, the element can be excluded consideration. Rather, according to In re Young, if a claim (including all limitations) is considered to involve no invention in view of the prior art, then just because one of the claim elements includes a material being worked upon, does not by itself make the claim patentable.

Thus, all of the limitations of claim 24 should be considered in determining whether the claim is patentable in view of the cited references. As described above, Hongoh, Hanawa, and Collins, independently or in combination, does not disclose or suggest, and would not have made obvious, the limitations of claim 24.

New claims 27-41 are supported by the specification. For example, claims 27 and 32 are supported by page 6, lines 13-17 and page 7, lines 11-18.

The applicant notes that in a parent application serial no. 10/076,129, filed February 13, 2002, in an office action dated December 19, 2002, the examiner cited Yoshichika et. al., Oda et. al., and Nallan. In a response dated March 18, 2002, the applicant amended claim 1 to recite, among other limitations, "a quartz plate." In claim 32 of the present application, the substrate is

not limited to those that comprise quartz plates. Claim 32 includes other limitations that distinguishes from the cited references.

Any circumstance in which the applicant has addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner. Any circumstance in which the applicant has made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims. Any circumstance in which the applicant has amended a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Enclosed is a check of $110 for the Petition for Extension of Time fee. Please apply any other charges to deposit account 06-1050, referencing attorney docket 10559-583002.

Respectfully submitted,

Date: 10/15/2004

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** See attached document certifying that Rex Huang has limited recognition to practice before the U.S. Patent and Trademark Office under 37 CFR § 10.9(b).*